

Air Quality and Greenhouse Gas Issues for the Oil and Gas Sector

ERM 2015 Webinar Series



September 10, 2015



Agenda

- The High Level View
- Voluntary Methane Challenge
- NSPS/CTG
- Tribal NSR
- Source Determination
- Path from Here
- Q&A Session

The Growing Weight of Compliance

GAS PLANT CTG/RACT FOR EQUIPMENT LEAKS;
MACT STANDARDS (HH, HHH);
SOURCE DETERMINATION/AGGREGATION FOR
PERMITTING



The Growing Weight of Compliance

GAS PLANT CTG/RACT FOR EQUIPMENT LEAKS
MACT STANDARDS (HH, HHH)
SOURCE DETERMINATION/AGGREGATION FOR PERMITTING
NATURAL GAS STAR
GREENHOUSE GAS REPORTING SUBPART W
NSPS SUBPART OOOO FOR VOC
NSPS SUBPART OOOOa FOR VOC AND METHANE
OIL AND GAS PRODUCTION CTG/RACT
NATURAL GAS STAR METHANE CHALLENGE
TRIBAL NSR/FIP



August 18, 2015

EPA Administrator Signed:

- Proposed modifications to NSPS Subpart OOOO
- Proposal for new NSPS Subpart OOOOa
- Proposed rule to clarify EPA's source determination air permitting rules as they apply to the oil and natural gas

- **Natural Gas STAR Methane Challenge Program: Proposed Framework**

- Draft Control Techniques Guidelines for reducing VOC emissions from existing oil and gas sources in certain ozone nonattainment areas and states in the Ozone Transport Region

NSPS – CTGs – Tribal NSR – Source Determination – Methane Challenge

Operational Change

Gas and Oil Wells
Compressors
Fugitive Components

Pneumatic Equipment
Storage Vessels
Control Devices



Capital Expenses

Equipment: wells, pneumatics, flares, control equipment
Re-design/approach: monitoring equipment (IR cameras, sampling)
Existing (retrofits) vs New



Operational Expenses

People: training, skillsets, MOC challenges
Equipment Upgrades: records, reports, data systems
External Stakeholders: Agencies, NGOs, neighbors/public
License to Operate: Violation, Risk



Actions

Check Gaps (vulnerability)
Influence rule language
Field trial of proposed methods (leaks: is it do-able?)
Evaluate alternatives (voluntary programs)
Look-ahead: future impacts?



Natural Gas STAR Methane Challenge

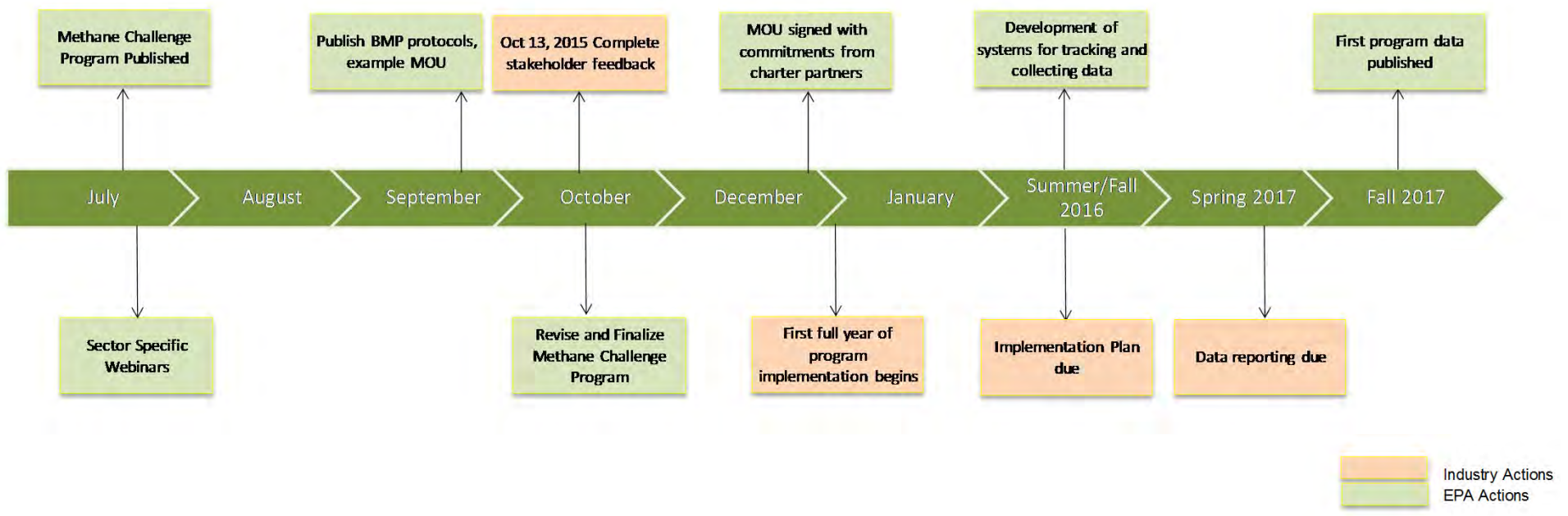
Lisa Campbell



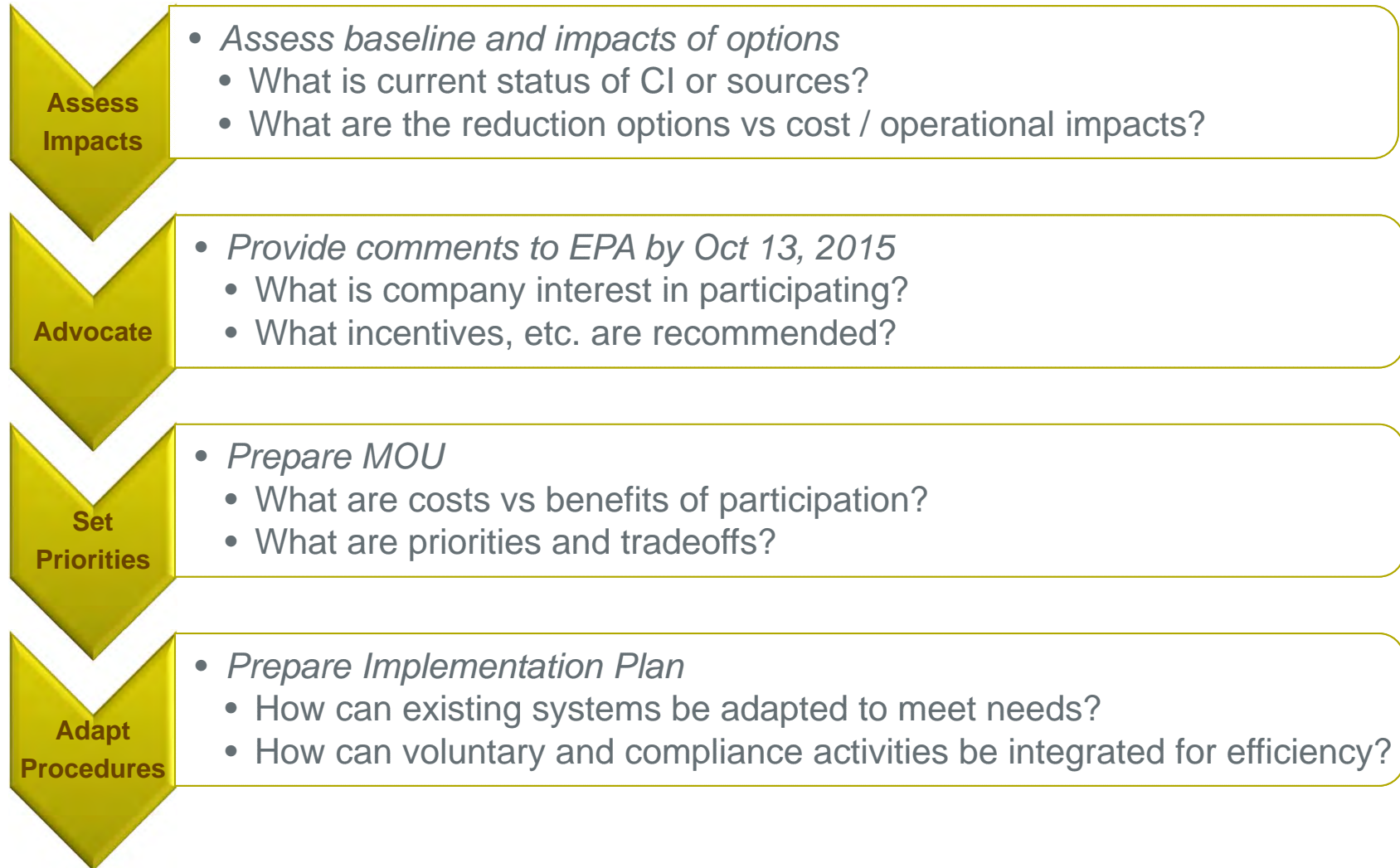
Methane Challenge: Summary of action

Methane Challenge – companies make commitments to voluntarily reduce methane emissions:

- Implement Best Management Practices (BMPs) ‘company-wide’
- One Future Program emissions intensity commitment



Methane Challenge: What can you do about it?



NSPS/CTG

Andy Woerner



NSPS/CTG: Summary of action

Proposed NSPS Subpart OOOO Updates

- Amended in response to petitions for reconsideration
- Applicability: Sources constructed/ modified/ reconstructed prior to proposal date of Subpart OOOOa (September x, 2015)

Proposed NSPS Subpart OOOOa

- Regulates Methane in addition to regulating VOC
- New source categories (not covered under OOOO)
- More sources in Transmission and Storage Segment covered

Draft Control Techniques Guidelines (CTG)

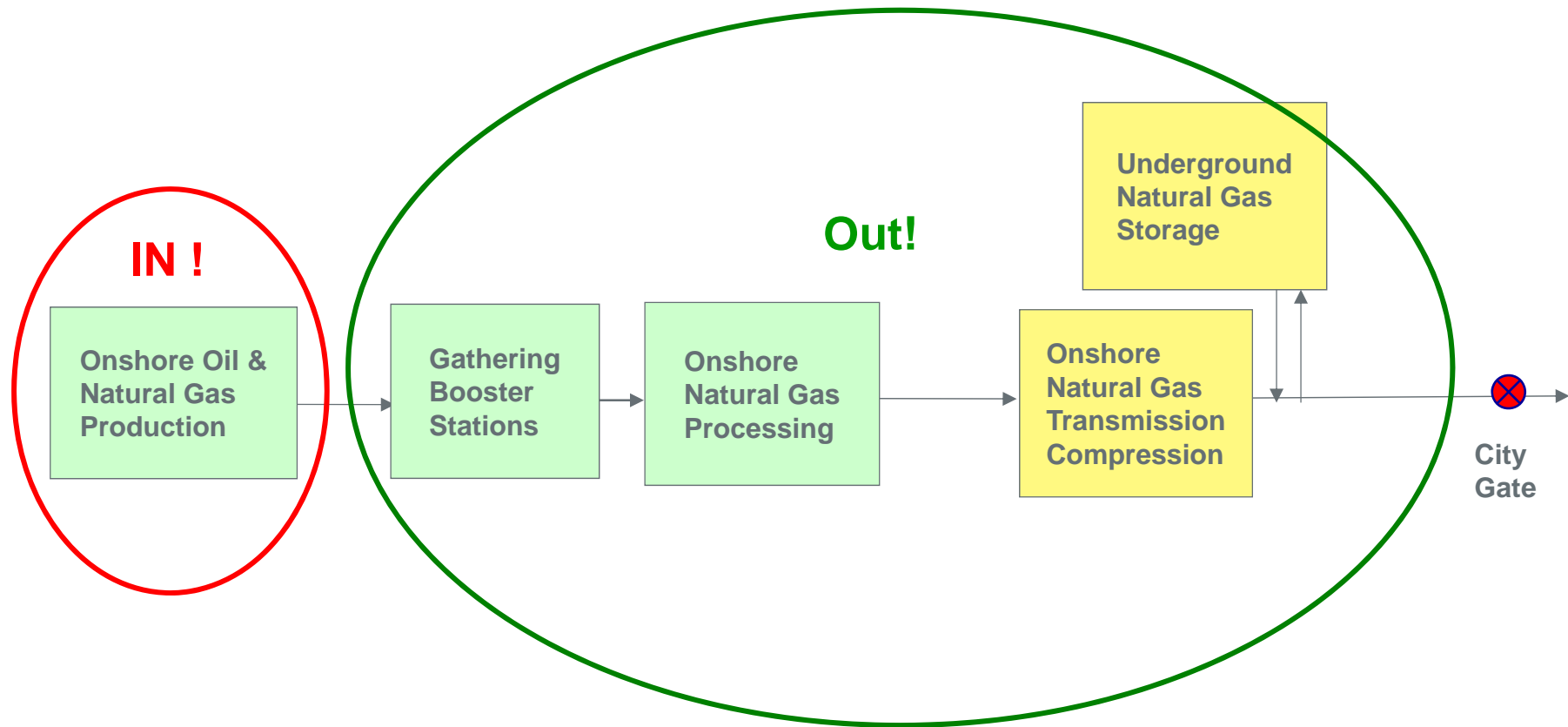
- CTGs: EPA's Guidelines to state, local and tribal air agencies to assist in determining RACT for reducing VOC emissions
- Addresses O&G industry emission sources in Non-Attainment Areas
- Provides model rule language – in most cases mirrors NSPS OOOOa

CTG vs. NSPS OOOOa - Distinctions

	CTGs	NSPS
Applicability	<u>Existing</u> O&G sources in Moderate or higher non-attainment areas of ozone, and ozone transport region	Applies nationally to <u>new, modified, and reconstructed</u> emissions sources
Regulated Pollutant	Addresses VOC only	Proposes regulation of both methane and VOC
Level of Control	Addresses RACT	NSPS requires BSER
Regulatory Authority	Final rule-making authority is with state/local agency	NSPS is prescriptive and federally enforceable
Transmission & Storage Covered?	Tanks Only...	Yes

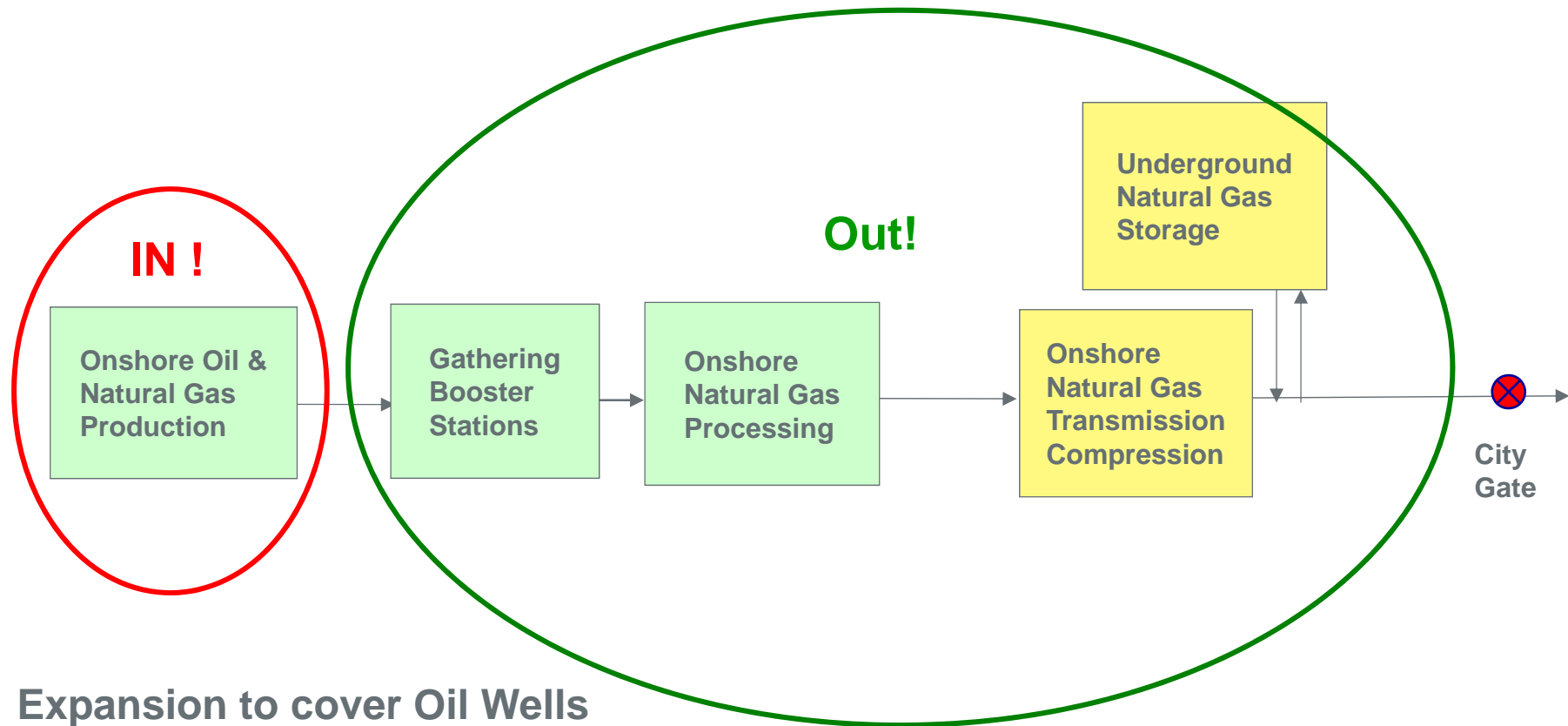
NSPS OOOO Applicability

Well Completions - VOC



NSPS OOOOa Applicability

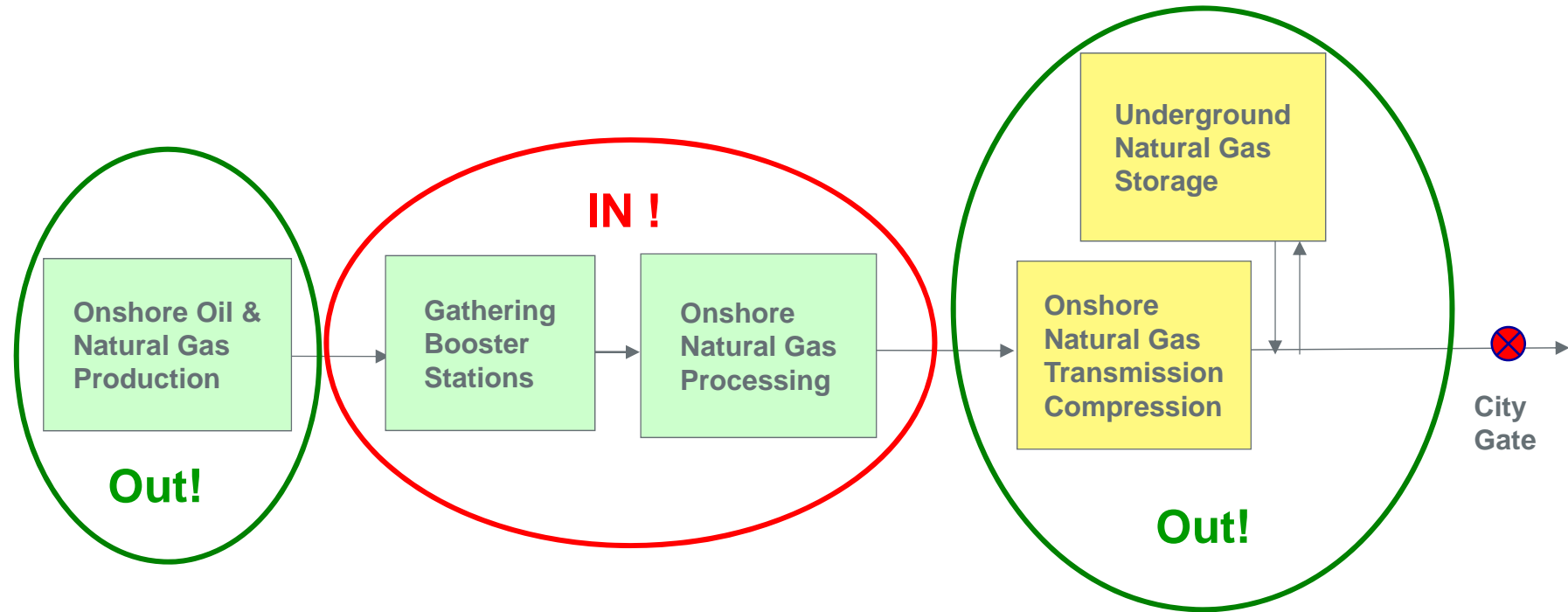
Well Completions – VOC and Methane



Expansion to cover Oil Wells
Technical Feasibility Considerations...

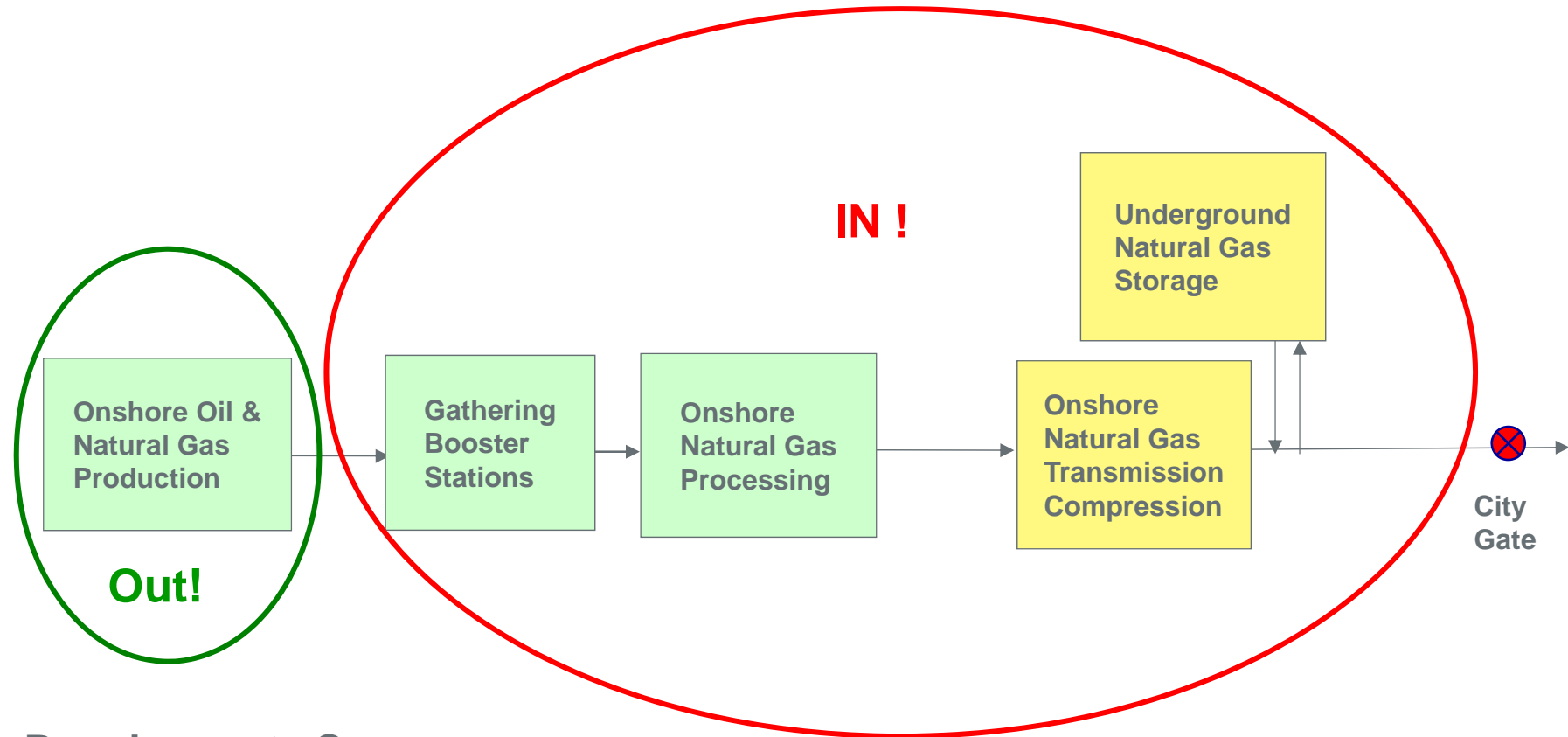
NSPS OOOO Applicability

Compressors - VOC



NSPS OOOOa Applicability

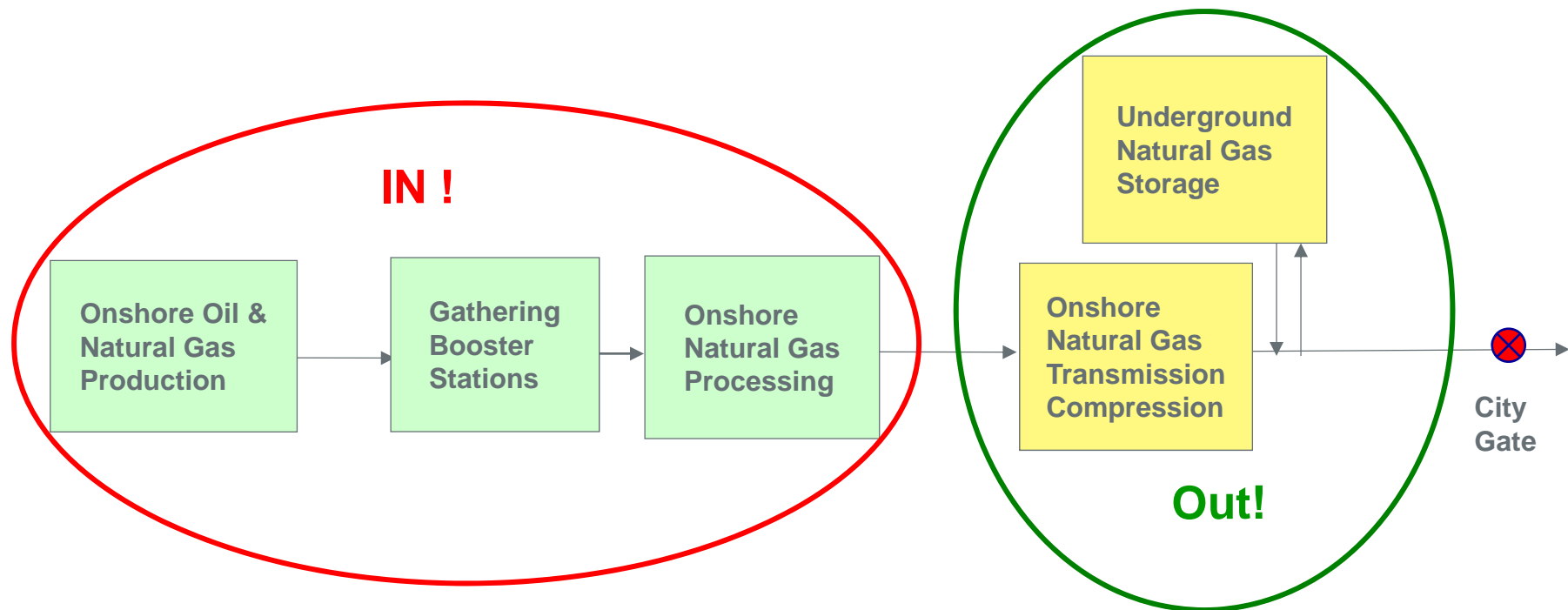
Compressors – VOC and Methane



Requirements Same
Scope of Sources Covered Expanded

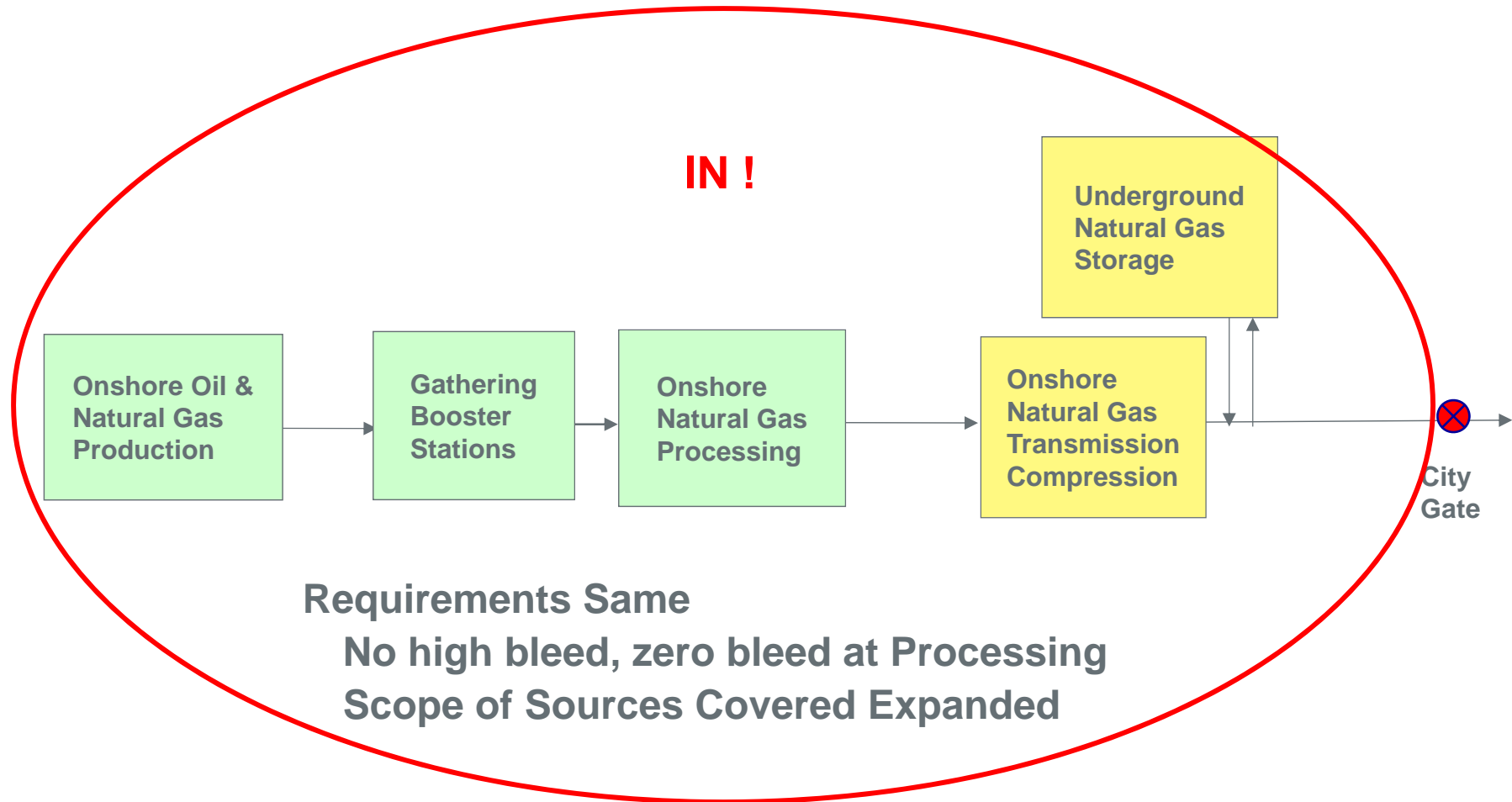
NSPS OOOO Applicability

Pneumatic Controllers - VOC



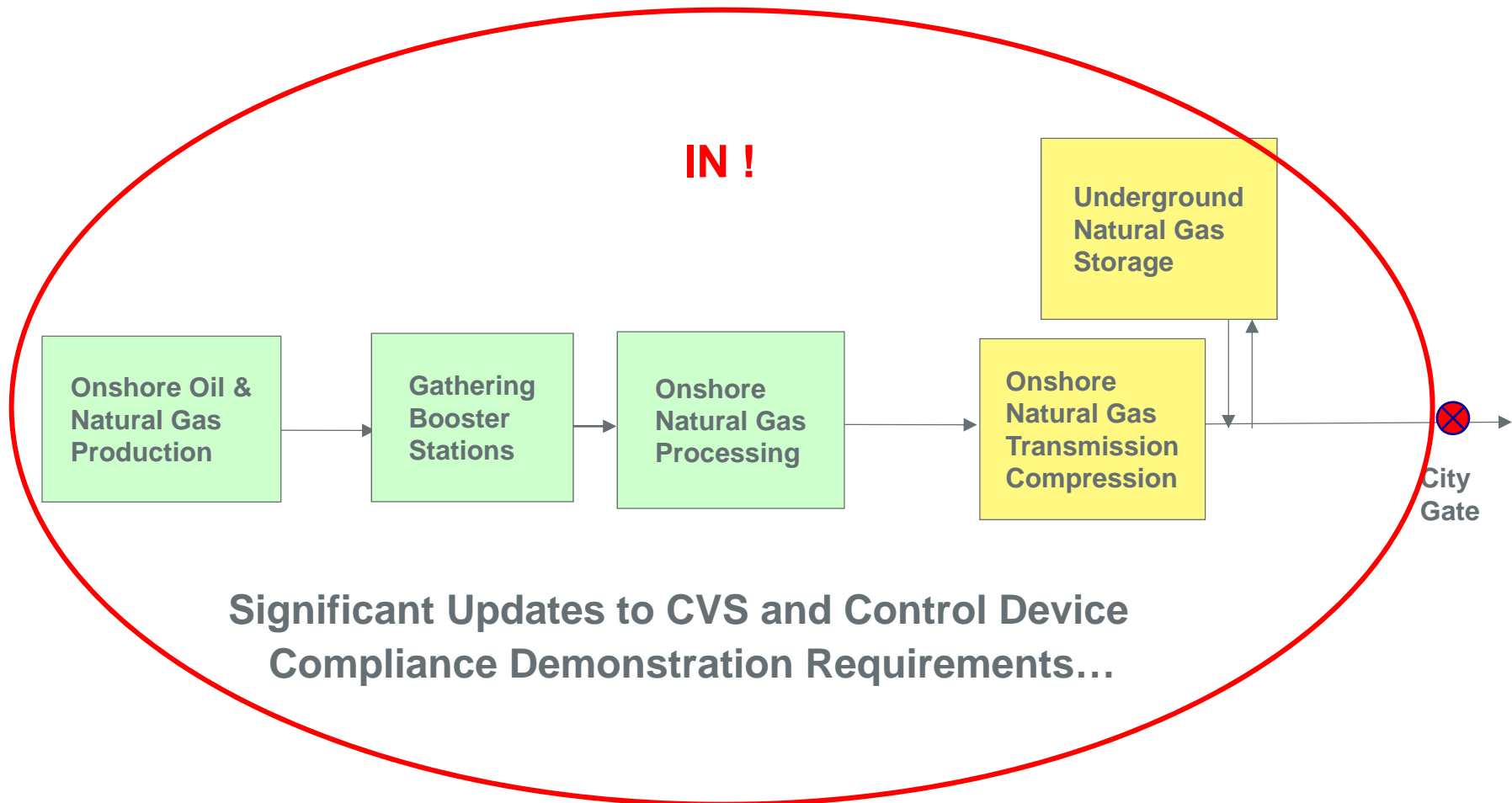
NSPS OOOOa Applicability

Pneumatic Controllers – VOC and Methane



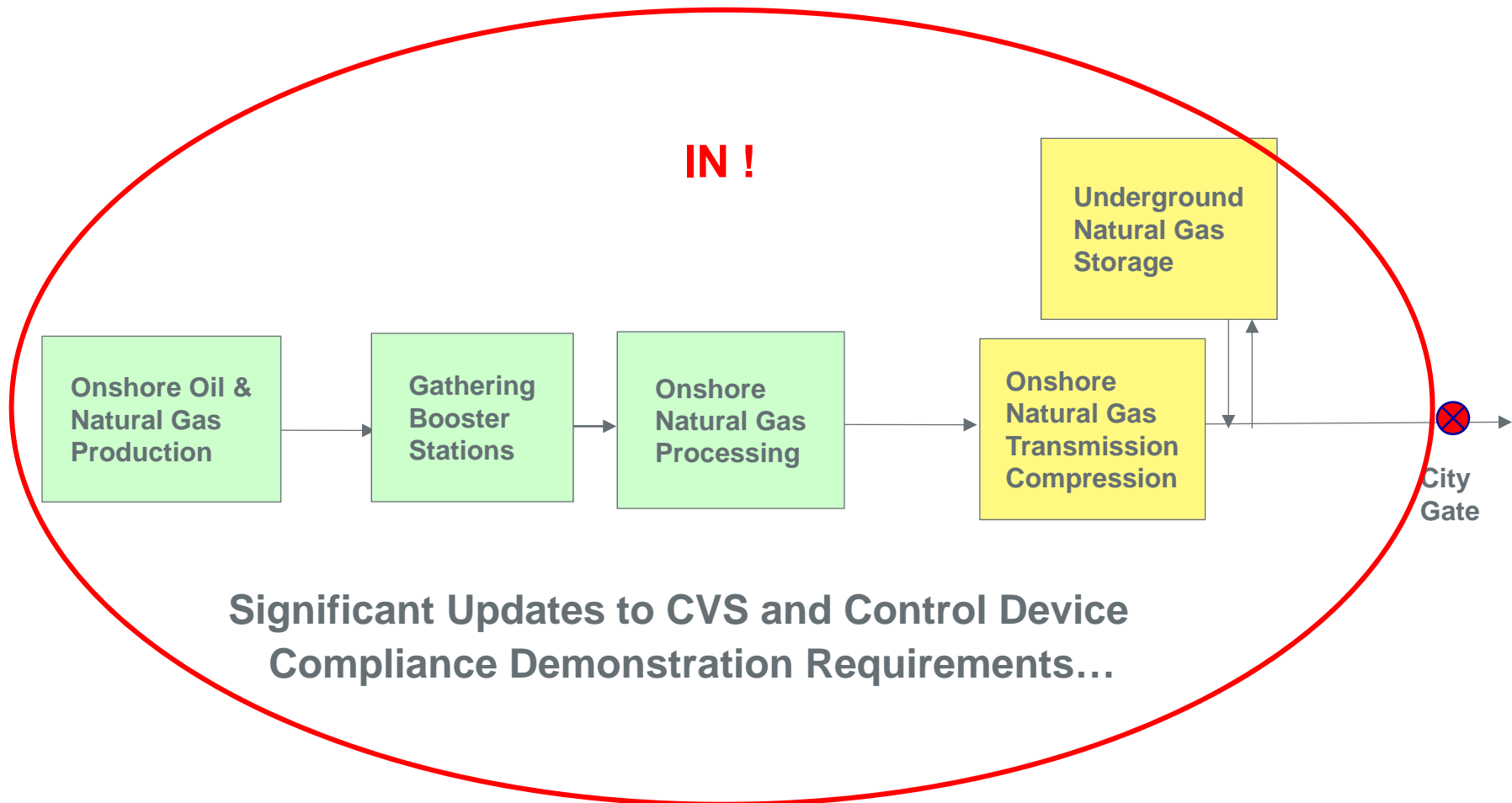
NSPS OOOO Applicability

Storage Tanks - VOC



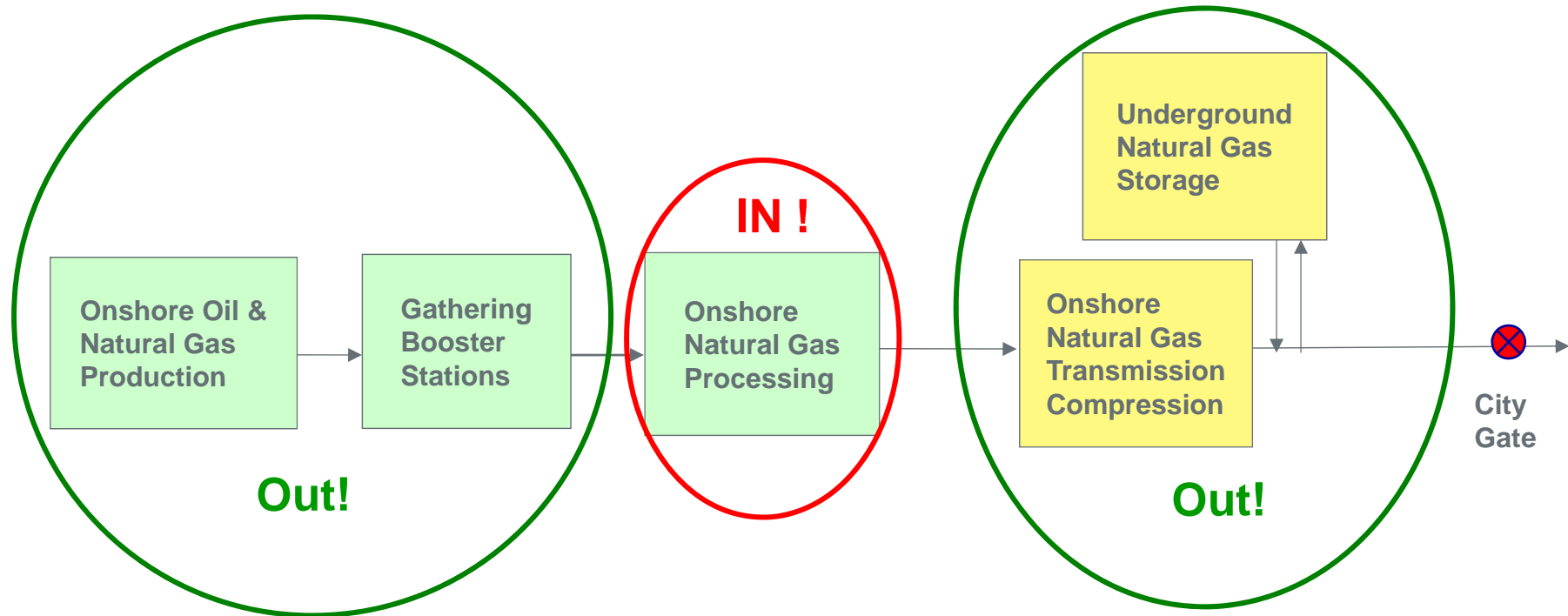
NSPS OOOOa Applicability

Storage Tanks - VOC



NSPS OOOO Applicability

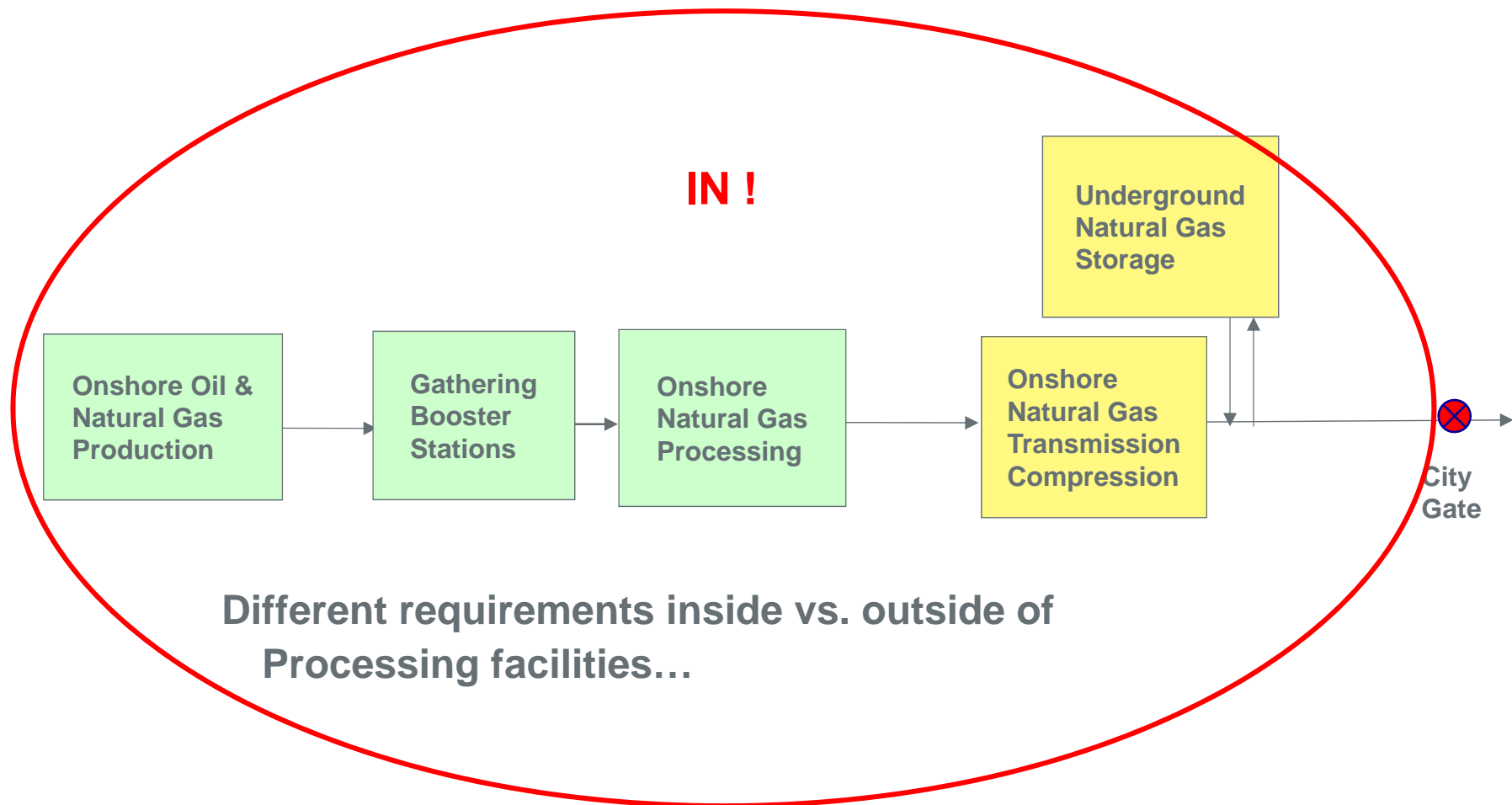
Leak Detection and Repair – VOC



“Traditional” LDAR @ Processing facilities...

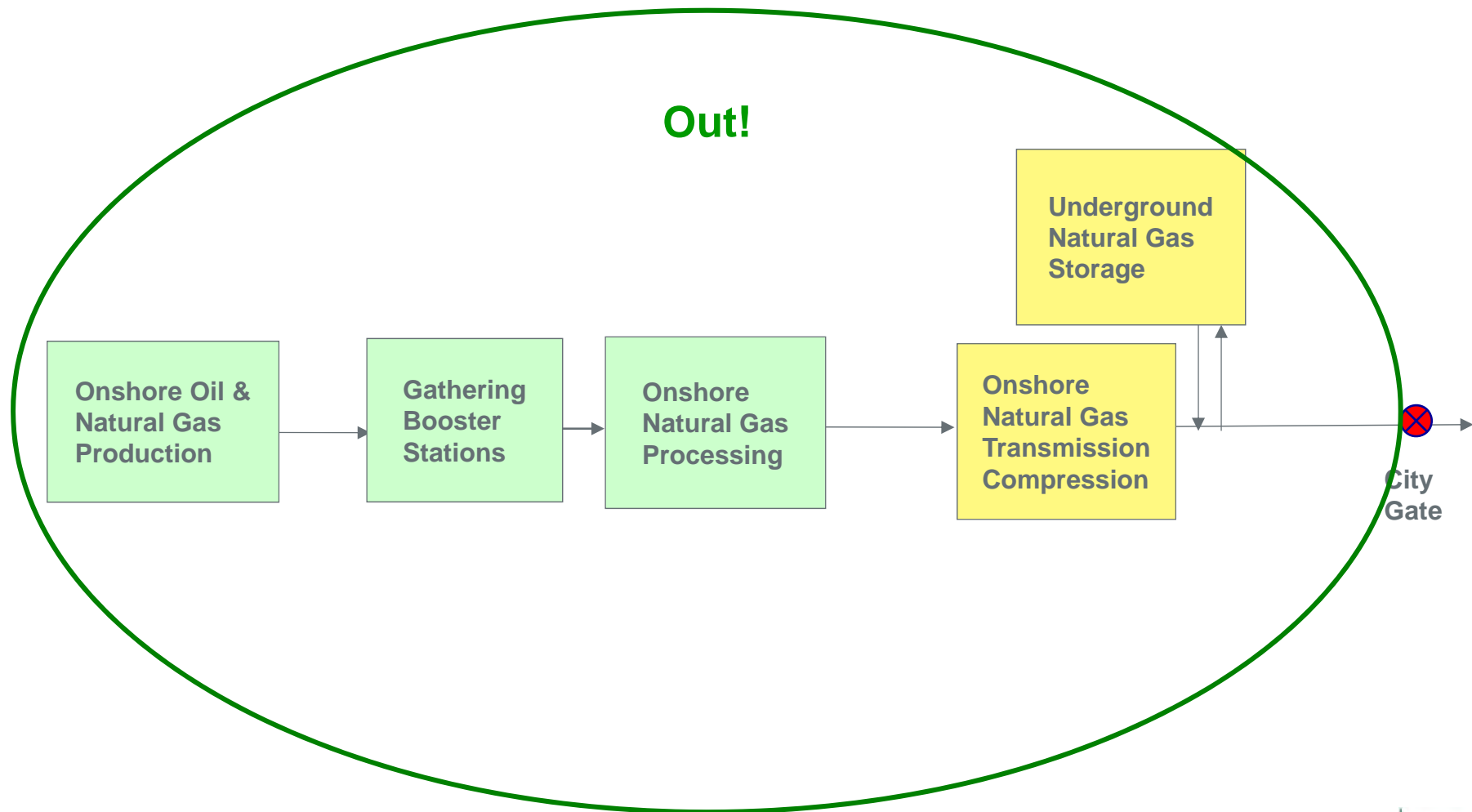
NSPS OOOOa Applicability

Leak Detection and Repair – VOC and Methane



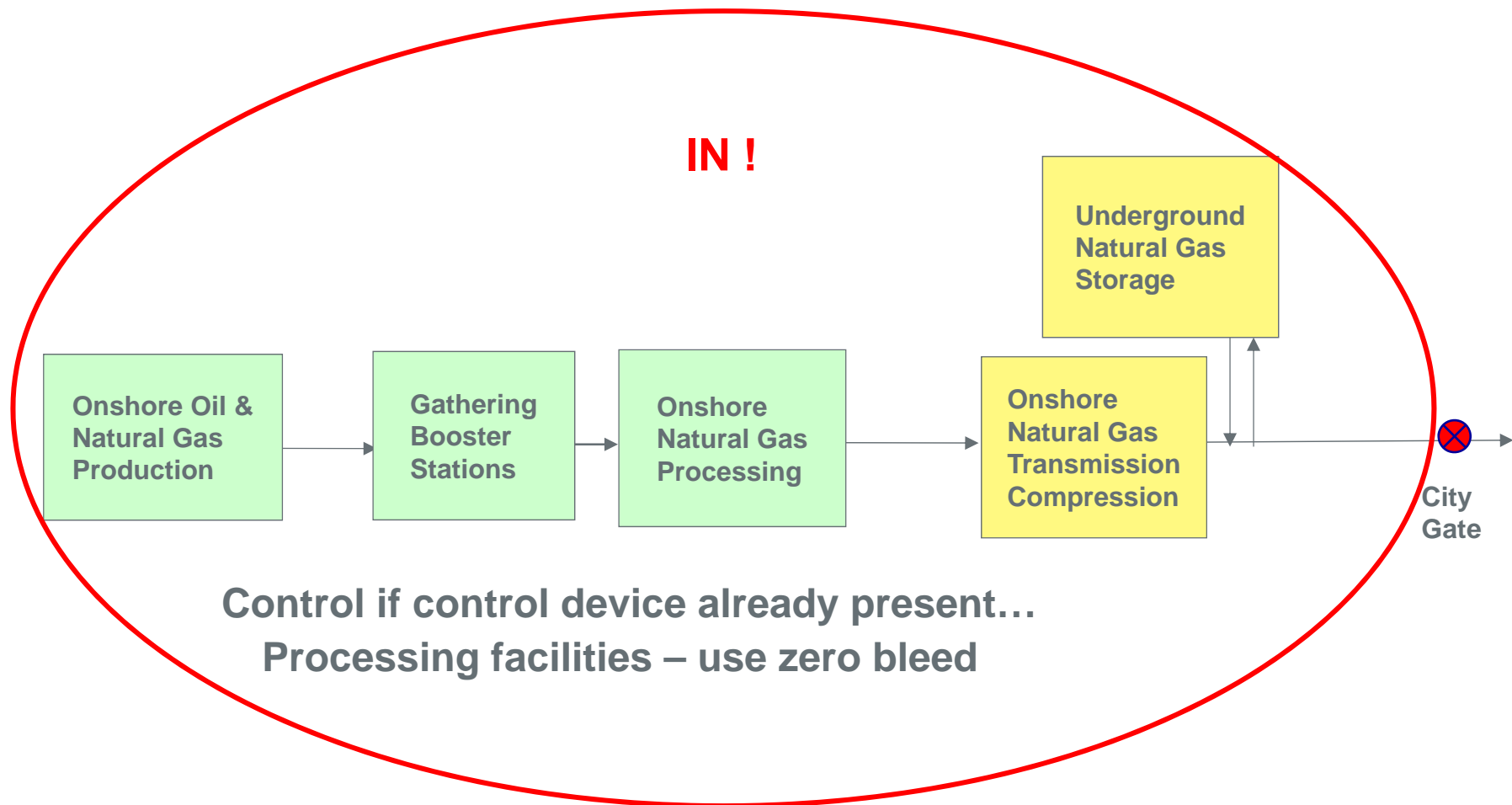
NSPS OOOO Applicability

Pneumatic Pumps – Not Applicable



NSPS OOOOa Applicability

Pneumatic Pumps – VOC and Methane



NSPS/CTG: Important Considerations (1)

- Regulation of Methane under NSPS opens up the door for future methane regulations for existing sources under 111(d)
 - Consider legal argument
 - Assessment of EPA's use of Social Cost of Methane

- Proposed NSPS addresses Methane, not other GHGs (CO₂ etc.)
 - Does regulation of methane under NSPS have any ramifications from a GHG (minor or major source) permitting standpoint?

- Treatment of Transmission and Storage Segments

NSPS/CTG: Important Considerations (2)

- Significant increase in source categories covered
 - Will the industry face a serious resource crunch?
 - Would training and retaining skilled operators be a challenge?
- Retrofit costs and technical feasibility
 - Pneumatic pumps requiring routing to existing on-site control devices
- Equipment leaks
 - What triggers a Modification?
- Additional recordkeeping and reporting requirements
 - How does this compare relative to current activity?
 - Changes to SOPs for voluntary, state-level programs?

NSPS/CTG: Assessing Impacts

- Understand the potential impacts on Business
 - Capital Costs
 - Resource Burden

- Leak Detection
 - Critical Assessment of Existing LDAR program
 - Outline elements of a system fit for purpose for your operations

- Closed Vent Systems and Control Devices
 - Tying in Pneumatic Pumps – Technical Issues?
 - Tank Controls - Assess existing design relative to proposed changes
 - Cost, Availability of technology to bring up to speed?
 - Accuracy required for instrumentation (flow meters)

Tribal NSR

Ryan Alam



Tribal NSR: Overview of Proposed Rulemaking

- 8/18/15 USEPA proposed rulemaking to streamline minor NSR permitting for O&G sources in “Indian Country”
- Rulemaking consists of 2 parts:
 - New FIP registration process for new true minor sources and minor modifications at existing true minor sources
 - Harmonizing amendments with existing minor NSR rule in §49.151 et seq.
- Applies to “oil and natural gas production facility” that begin construction/modification on or after 10/3/16
- New FIP establishes pre-construction registration process (30 days prior)
- Incorporate by reference 6 federal rules: NESHAP DDDDD, NESHAP HH, NSPS Kb, NSPS IIII, NSPS JJJJ, and NSPS OOOOa
- Extends existing O&G source permitting deadline from 3/2/16 to 10/3/16
- Maintains option to pursue site-specific permits per §49.151 et seq.

Tribal NSR: Potential Implications for New FIP

- Establishes **pre**-construction registration process as opposed to **post**-construction process. PTE not known before completion and initial well test
- Not applicable for sources in non-attainment areas (e.g. Uinta)
- Does not provide any streamlined mechanism for obtaining synthetic minor permits for PSD/NNSR, T5, MACT, NSPS (OOOO/OOOOa tank 6 TPY) avoidance
- USEPA retains ability to require site-specific permits to ensure protection of NAAQS
- Does not cover natural gas processing plants

Source Determination

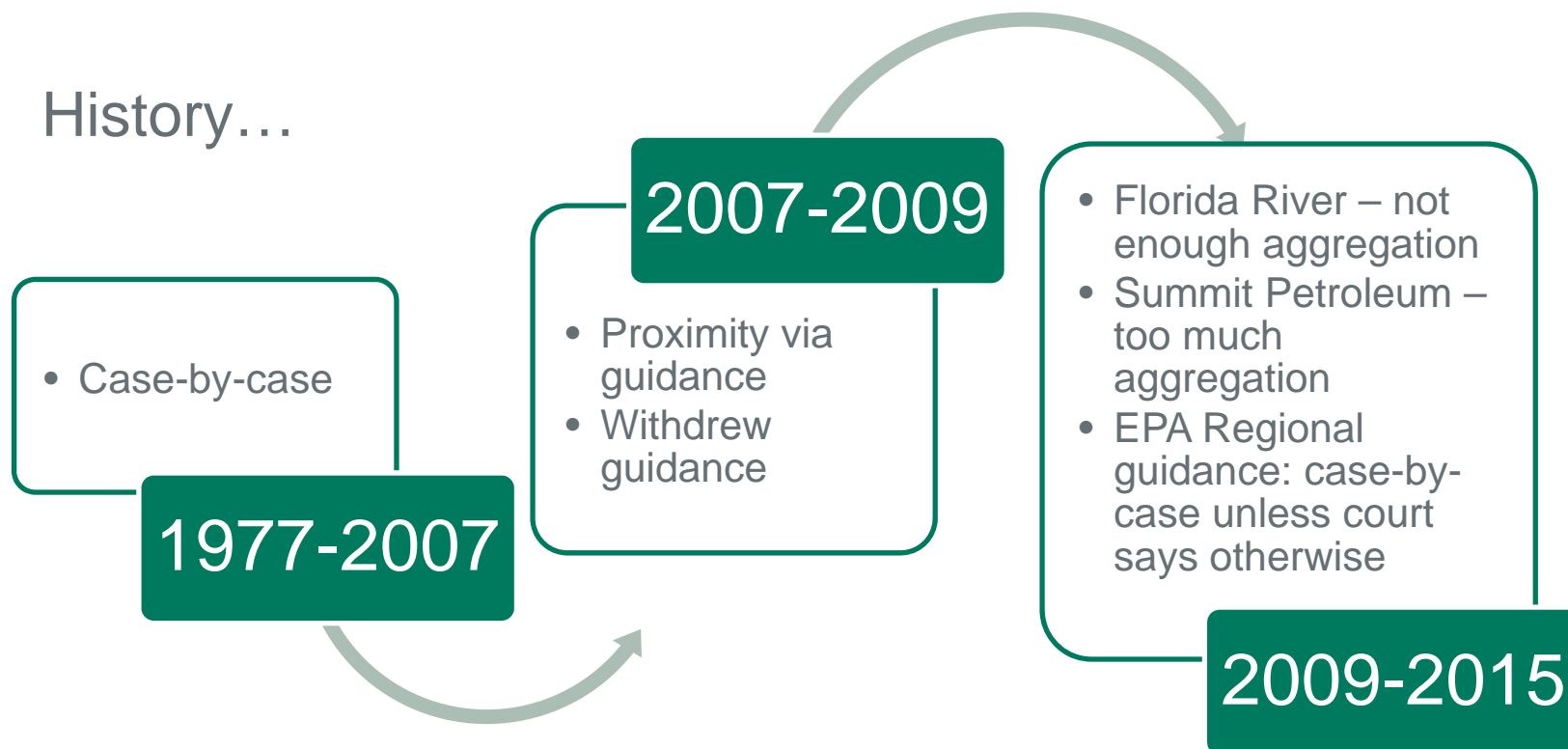
Kevin Madry



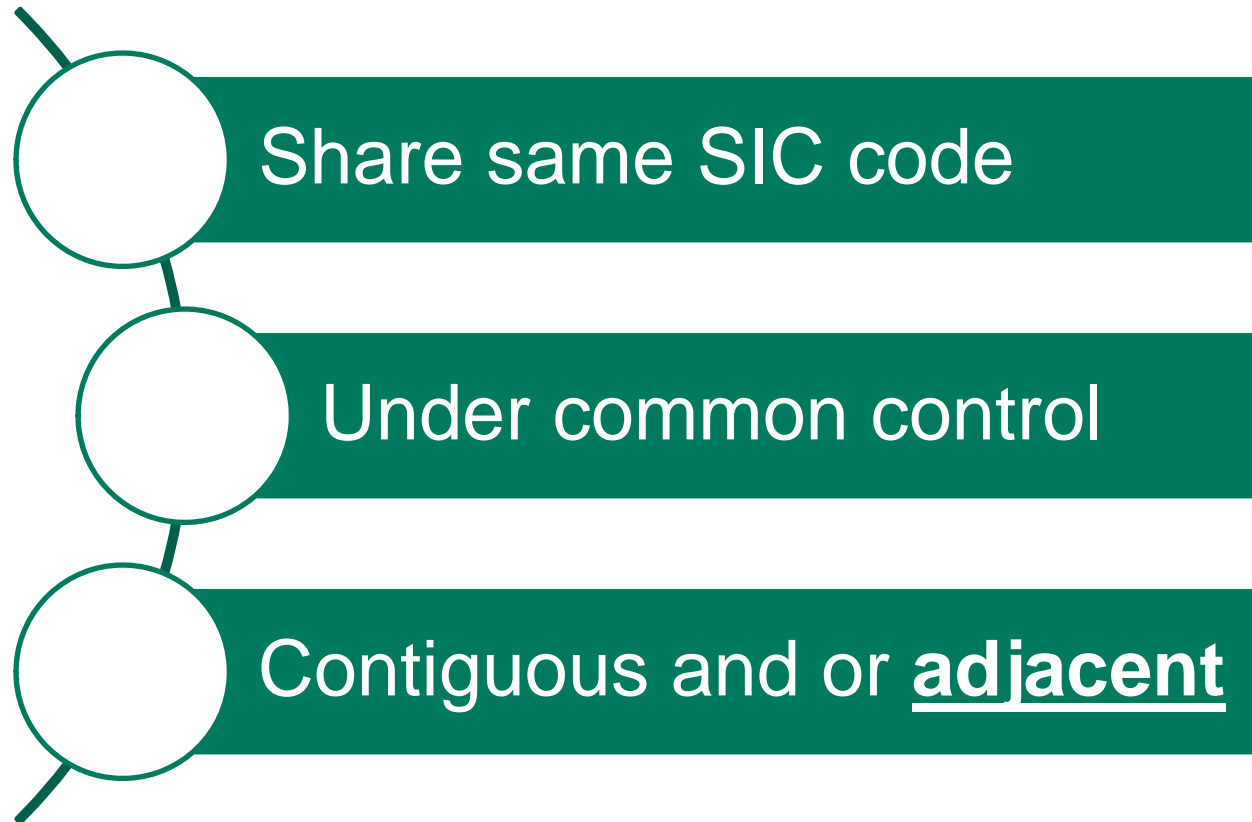
Purpose

To request comment on the best approach to define “adjacent” when identifying a major source in EPA permit programs for the onshore oil and natural gas sector.

History...



Definition of Stationary Source



Only taking comments on the definition of adjacent

Affected Regulations

NSR (NNSR and PSD)

Change: “Building, structure, facility or installation” definition

Part 51- Requirements for Preparation, Adoption and Submittal of Implementation Plans

Part 52- Approval and Promulgation of Implementation Plans

Stationary source: “...any building...”
“Building, structure...”: “...same industrial grouping...one or more contiguous and **adjacent** properties...”

Title V

Change: “Major Source” definition

Part 70- State Operating Permit Programs

Part 71- Federal Operating Permit Programs

Major Source: “...any stationary source (or any group of stationary sources that are located on one or more contiguous or **adjacent** properties...”

Affected Processes/Equipment

Affected Processes- SIC code 13

- Only applies to onshore oil and gas operations
- From well to point of custody transfer (oil) or customer (gas)
- Does not include offshore
- Does not include downstream operations

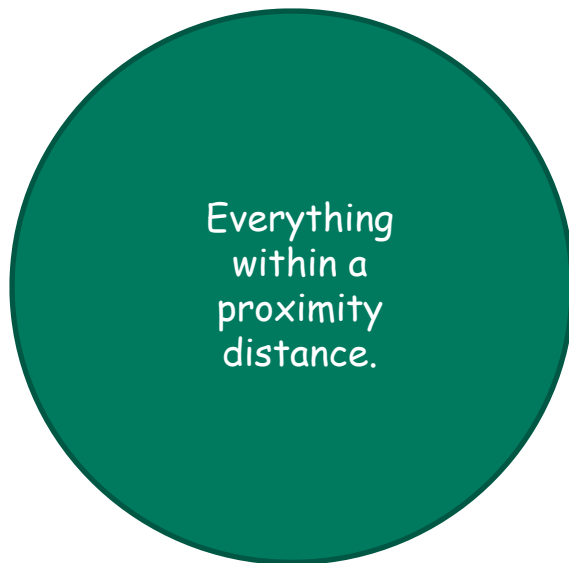


- Wells
- Pumps
- Compressors
- Separators
- Tanks
- Vessels
- Pneumatic devices
- Dehydrators
- Gathering lines



- Natural gas processing plants
- Liquid extraction plants

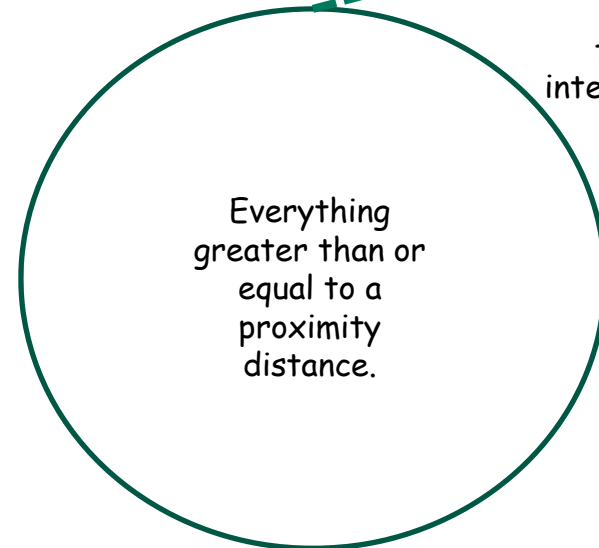
1st Option: Proximity
(Similar to NESHAP)



2nd Option: Proximity &
Functional Interrelatedness



OR



And there is exclusive functional interrelatedness

Considerations



- Appropriate distance?
- Measurement of appropriate distance?
- Final implementation method?
- Does this preclude daisy-chaining?
- Other viable options: only equipment/operations within proximity distance that is functionally interrelated?
- Overlapping facilities
- Ability to “opt-in” equipment/operations?

What should you do now?

- Assess potential impact - evaluate scenarios
- Consider future implications – expansion, mergers, acquisitions
- Consider local/state impact – aligned?
- Look at examples of aggregated source regulations



Wrap-up

The Road Ahead

Evaluate and Communicate Overall Impacts

Submit Comments

Capital Project Planning/Review

Pilot and Develop Compliance Programs

- LDAR
- Testing and Monitoring
- Prepare for Enforcement



Q&A Session

Contact Information

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